

ECHO CORRECTOR UN14/506

Introduction

This unit accepts feeds of video signal, clamping pulses and blanking-level reference potential. It is intended for use with a standards converter^{1,2} which, by the nature of its mode of operation, introduces an echo into the picture signal. The UN14/506 clamps the input signal at blanking level, attenuates it and, by reflection in an artificial line, generates an echo with the amplitude and polarity required to cancel the echo in the input signal.

Versions of the unit exist having echo-times appropriate to 405-line and 625-line standards converters. These versions are not distinguishable by equipment-code numbers, but are conspicuously labelled with the relevant line standard, as well as the percentage echo, which can be ordered as 10%, 7.5% or 2.67%.

An input-signal amplitude of 4.5 volts gives an output-signal amplitude of 0.7 volt.

The unit is assembled on a printed-wiring board, accommodated in a Chassis Type CH1/12A (index-peg-position Nos. 18 and 33).

General Specification

<i>Power Supply</i>	None
<i>Input-signal Amplitudes</i>	
Picture signal	4.5 V p-p
Clamping pulses	17 V p-p
<i>Blanking-level Reference Potential (approximate)</i>	
	-12 V

Input Impedance 450 ohms (approx.)

Output-signal Amplitude 0.7 V p-p

Output Impedance 70 ohms (approx.)

Circuit Description

The circuit diagram of the unit is given in Fig. 1. R3, C14 provide a small amount of high-frequency accentuation, to offset losses elsewhere in the system. R7 provides fine adjustment of the percentage echo; it is located inside the unit, on the printed-wiring board. The component-values of the network R8, R9, R10 are chosen to give an output impedance from the unit of approximately 70 ohms, whichever percentage echo is selected.

Examples of the unit may be encountered lacking C17; this was added as a modification to improve the purity of the reflected signal.

Maintenance

The inductors of the artificial line are adjusted during the initial setting-up of the unit, and should not require further attention.

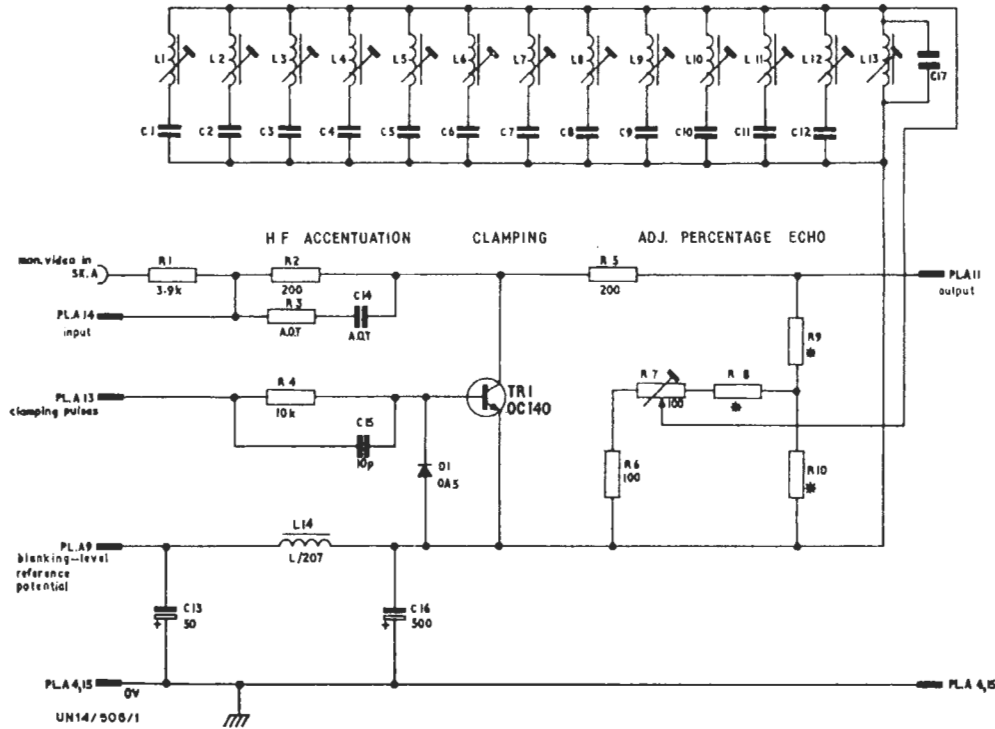
R7 can be adjusted only when the unit is installed in the parent equipment.

References

1. Output Processing Panel PA1M/539
2. Line-store Standards Converter CO6/501A
3. Designs Department Specification No. 7.134(68)
DEH 11/68

See overleaf for Fig. 1

ARTIFICIAL LINE



DELAY LINE GIVING ECHO CORRECTION FOR LINE STORE												
625 LINE						405 LINE						
L1	L/1092	C1	4375 p	L1	L/1091	C1	6950 p	L2	L/1091	C2	1740 p	
L2	L/1092	C2	1091 p	L3	L/1091	C3	774 p	L3	L/1091	C3	437 p	
L3	L/1092	C3	488 p	L4	L/1091	C4	374 p	L4	L/1091	C4	282 p	
L4	L/1092	C4	274.7 p	L5	L/1091	C5	282 p	L5	L/1091	C5	195 p	
L5	L/1092	C5	177 p	L6	L/1091	C6	195 p	L6	L/1091	C6	145 p	
L6	L/1092	C6	122 p	L7	L/1091	C7	145 p	L7	L/1091	C7	112 p	
L7	L/1092	C7	91 p	L8	L/1091	C8	112 p	L8	L/1091	C8	88.0 p	
L8	L/1092	C8	70.2 p	L9	L/1091	C9	88.0 p	L9	L/1091	C9	72.7 p	
L9	L/1092	C9	56 p	L10	L/1091	C10	72.7 p	L10	L/1091	C10	62 p	
L10	L/1092	C10	47 p	L11	L/1091	C11	62 p	L11	L/1091	C11	51 p	
L11	L/1092	C11	39 p	L12	L/1091	C12	51 p	L12	L/1091	C12	47.0 p	
L12	L/1092	C12	33 p	L13	L/1091	C13	47.0 p	L13	L/1091	C13		
L13	L/1092	C13	300 p									

components marked thus * shown below.

PERCENTAGE ECHO			
	10%	7 1/2 %	2-67%
R8	35 A	43 A	68 A
R9	30 A	33 A	51 A
R10	68 A	56 A	36 A

from D 21B35 A3 parts list D 21B36 A4

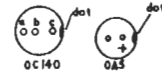


Fig. 1 Circuit of the UN14/506